



Australian Government

**AURETH015 Diagnose, remove and replace
heavy electric vehicle rechargeable energy
storage systems**

Release: 1

AURETH015 Diagnose, remove and replace heavy electric vehicle rechargeable energy storage systems

Modification History

Release	Comments
Release 1	This version first released with the Automotive Retail, Service and Repair Training Package Version 7.0. Newly created unit.

Application

This unit describes the skills and knowledge required to diagnose, remove and replace high voltage (HV) rechargeable energy storage systems (RESS) in heavy electric vehicles. The unit involves preparing for the task, sourcing a diagnostic testing strategy, diagnosing the cause of the fault, carrying out the removal and replacement and post-replacement testing, and completing workplace processes and documentation.

It applies to individuals who work in the automotive service and repair industry and apply battery electric safety procedures according to Australian Standards (AS) 5732 Electric vehicle operations - Maintenance and repair.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Electrical technical – Hybrid Vehicle and Battery Electric Vehicle

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to diagnose, remove and replace heavy electric vehicle rechargeable energy storage systems	1.1 Identify job requirements from workplace instructions 1.2 Identify information required for diagnostic activity from customers and supervisors 1.3 Assess diagnostic options and source testing strategy according to workplace and manufacturer specifications 1.4 Identify hazards and environmental issues associated with diagnostic, removal and replacement activity, assess

	<p>potential risks and implement control measures according to workplace policies and procedures</p> <p>1.5 Identify tools and equipment required for testing strategy and establish serviceability according to workplace procedures</p>
2. Diagnose heavy electric vehicle rechargeable energy storage systems	<p>2.1 Implement diagnostic tests according to testing strategy, manufacturer and workplace procedures, and workplace health and safety requirements</p> <p>2.2 Analyse diagnostic test results and identify cause of fault</p> <p>2.3 Confirm and report cause of fault according to workplace procedures</p> <p>2.4 Develop and report recommendations for necessary removal and replacement according to workplace procedures</p>
3. Remove and replace heavy electric vehicle rechargeable energy storage systems	<p>3.1 Identify information required for removal and replacement activity</p> <p>3.2 Identify tools, equipment and materials required for removal and replacement activity and establish serviceability according to workplace procedures</p> <p>3.3 Isolate RESS service plug or manual service disconnect and depower vehicle HV RESS according to manufacturer specifications</p> <p>3.4 Identify potential stored energy sources and implement control measures</p> <p>3.5 Carry out removal and replacement of HV RESS according to workplace manufacturer specifications, workplace health and safety and environmental requirements</p> <p>3.6 Reconnect RESS service plug or manual service disconnect and repower vehicle HV RESS according to manufacturer specifications</p> <p>3.7 Carry out post-removal and replacement testing according to workplace procedures, workplace health and safety and environmental requirements</p>
4. Complete work processes	<p>4.1 Conduct final inspection according to workplace procedures and confirm vehicle is ready for use</p> <p>4.2 Clear work area and dispose or recycle materials according to workplace procedures</p> <p>4.3 Complete documentation according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Learning	<ul style="list-style-type: none">efficiently locates required sources of information
Reading	<ul style="list-style-type: none">interprets symbols and wiring diagrams
Writing	<ul style="list-style-type: none">legibly and accurately fills out workplace documentation
Oral communication	<ul style="list-style-type: none">clarifies instructionsobtains information from customers and supervisors
Numeracy	<ul style="list-style-type: none">matches electrical components and part identification numbers to workplace instructions, vehicle and component part lists, and manufacturer specificationsinterprets vehicle electrical measurements and readings on digital and analogue gaugesmeasures voltage, current and resistanceuses mathematical operationscalculates deviations from manufacturer specifications
Planning and organising	<ul style="list-style-type: none">prioritises actions to achieve required outcomesensures tasks are completed within workplace timeframes
Technology	<ul style="list-style-type: none">uses specialised tools and equipment

Unit Mapping Information

Newly created unit.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>